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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,195	03/01/2000	Allen W Stichter	STICHTER 3	3419
32361	7590	10/29/2004	EXAMINER	
GREENBERG TRAUIG, LLP			GHULAMALI, QUTBUDDIN	
885 3RD AVENUE			ART UNIT	
NEW YORK, NY 10022			PAPER NUMBER	

2637

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/516,195

Applicant(s)

STICHTER, ALLEN W

Examiner

Qutub Ghulamali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/23/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 53-56 is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-19, 25-29, 35-43, 46 47 and 48 is/are rejected.
- 7) ☒ Claim(s) 8-12, 21-24 and 30-34, 44, 45 49-52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment

1. This Office Action is responsive to the Amendment filed on 10/23/2003.
2. The examiner acknowledges amendment to the Abstract
3. The deficiency under 35 U.S. C. 112, second paragraph pertaining to claims 1 and 43 cited in paper No. 5 has been overcome by the applicant's stated clarification and explanation. The rejection, therefore, has been withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 13, 14-16, 17, 18-20, 25, 26, 27, 28, 37, 39, 43, 46, 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Read et al ("Read") (US Patent No. 6,236,623).

Consider claims 1, 13, 14-16, 17, 20, 25-28, 37, 43, 46 and 48, Read substantially discloses (fig. 2) every feature of the claimed invention: a synchronization of clocks in a plurality of devices connected by a communication channel, a master control device 12 having a first clock is coupled to one or more slave control 14 devices having a second clock, sending a first message from the master clock 12 to the slave control 14 comprising a first transit time T_1 of $(T_{p1}+T_{c1})$, receiving a second message from the clock slave 14 the second message comprising a

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second transit time T_2 of (Tp_2+Tc_2) , obtaining a second transit time T_2 at the clock slave 14 a second transmit (reception) time of the second message, calculating a transmission delay (loop communication delay) between the clock slave and clock master from the first and second reception times (Tc_1, Tc_2) and the first and second transmission times (Tp_1, Tp_2) , the total loop communication delay is monitored in reference to the master clock circuitry 18 and/or the master time 22 and measured (calculated), essentially the delays are identical in both directions across the communication path 16 (from master to slave or from slave to the master), the loop communication delay (T_1+T_2) is divided by 2 to compute an average delay, and applying the average delay to compensate for the known time setting errors for each of the slave clocks, a slave communication controller is responsive to a synchronization signal sent from the master control device across the communication channel, used in conjunction with an associated time delay value in the offset register, to cause the slave time to essentially synchronize with the master time (col. 2, lines 43-62; col. 5, lines 37-67 and col. 6, lines 20-55), wherein the controller is a programmed processor (microcomputer) (col. 1, lines 55-60). The disclosure in Read however, is directed to a method for synchronizing the clocks of a plurality of slave devices by the master control device. The synchronization could equally be applied by the slave to the clock master as disclosed by Read and since the communication is bi-directional with delays that are essentially identical in both directions across the communication path 16, synchronization between the clock master and the clock slave is achieved by periodic commands from the master control device 12 to the slave which can equally be applied. Given that, it would have been obvious to one skilled in the art at the time the invention was made to allow slave to control the master clock so as to achieve synchronization between clocks as disclosed by Read.

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Regarding claims 2, 5, 6, 7, 18 and 29, Read discloses, depending upon the number of slave devices 14, the interrogation of each slave device can occur multiple times within a predefined one second interval (col. 7, lines 20-23).

Regarding claims 3, 4, and 19, Read discloses synchronizing the slave clock to the master clock using stored (accumulated) delay (col. 7, lines 4-9).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 35, 36, 38, 40-42, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Read et al ("Read") (US Patent No. 6,236,623) in view of Lundh et al ("Lundh") (US Patent 6,373,834).

As shown in figures 1, 6A-C, 11A-C, 12 and 13, Read teaches clock synchronization, in a telecommunication network 20, between a master timing (clock) unit and a slave timing (clock) unit located at e.g., base station 22 of the network, performing synchronization analysis to determine a synchronization adjustment value for the slave timing unit, with the master timing unit located in a control node such as a RNC (col. 4, lines 34-36), determines whether the addressed slave timing unit respond within a predetermined time-out window, response messages with the best (lowest) round-trip delay time one having median or average values chosen for the

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subsequent computations (col. 13, lines 27-29 and col. 14, lines 34-42). See also column 3, lines 15- 67 and column 4, lines 1-14, col. 8, lines 13-18). Read however, makes no reference to employing the CDMA telecommunications system within the network. Lundh, discloses employing the CDMA telecommunications network system for facilitating an accurate and reliable technique for synchronization of clock timing units, such as timing units at base stations. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Read's clock synchronization communications system by employing the CDMA telecommunications within the network so as to provide reliable synchronization of clocks as taught by Lundh.

Allowable Subject Matter

8. Claims 53-56 allowed.
9. Claims 8-12, 21-24, 30-34, 44, 45, 49-52, are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 10/23/2004 with respect to claims 1-7, 13, 14, 16, 17, 18-20, 25, 26, 27, 28, 29, 37, 46 have been considered but are moot in view of the new ground(s) of rejection. The rejection is as follows:

In response to applicant's argument with reference to claims 1-7, 13, 14, 16, 17, 18-20, 25, 26, 27, 28, 29, 37, 46, discussed above with reference to 35 U.S.C. 102(e), the examiner

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respectfully would like to draw applicant's attention to fig. 5, that shows a timing diagram for the process of interrogating and synchronizing the slave control devices 14, this process as disclosed by Read, is repeated at a periodic cycle rate for example 5 seconds in response to the fixed frequency output 20, typically a 1 Hz clock from the master clock circuitry 18, in a first portion 56 (comprised of 4 one second intervals) of this process cycle 58 beginning at T_0 , interrogation occurs to determine the transit time delay for each slave control device 14 and depending upon the number of slave control devices 14, and the duration of the interrogation cycle portion 56, the interrogation of each slave control device 14 can occur *multiple times* within each one second interval, the master control device 12 preferably averages the calculated transit time delay 48, using a weighted average, the master control device 12 discards any transit time delay values that are significantly different from the calculated average to achieve synchronization between the master and the slave devices.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
October 5, 2004.

TEMESGHEN GHEBRETSINAE
PRIMARY EXAMINER

10/28/04